

REMARKS

This Request for Reconsideration is filed in response to the Office Action mailed on 25 June 2007 for the subject patent application.

In the Office Action of 25 June 2007, the Examiner rejected claims of the present application under 35 U.S.C. § 103(a) based on U.S. Patent No. 6,477,363 to Ayoub and U.S. Patent Application Publication US2005/0075116 to Laird et al. In response, the Applicants respectfully disagree with the Examiner's rejections and submit that all claims as amended are allowable over the prior art of record for at least the following reasons.

For proper rejections under 35 U.S.C. § 103(a), the prior art individually or in combination should teach or suggest each and every claim limitation. In addition, there must be an adequate showing and reasoning of why one ordinarily skilled in the art would combine such different prior art teachings. When considering various prior art teachings for an obviousness/non-obviousness determination under §103,

the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved. Against this background the obviousness or non-obviousness of the subject matter is determined. Such secondary considerations as commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. *Graham vs. John Deere Co. of Kansas City*, 383 U.S. 1, pp 17-18 (1966).

In this analysis, a functional approach may be taken which asks whether the improvement of the presented invention is more than a predictable use of prior art elements according to their established functions. It is also helpful and instructive to consider whether there is any teaching, suggestion, or motivation to combine the teachings of the references, either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art, in a flexible and non-rigid manner. The reason or evidence of a motivation to combine teachings need not be found explicitly in the prior art references, as one may also "look to interrelated teachings of multiple

patents; the effects of demands known to the design community or present in the marketplace; and the background knowledge possessed by a person having ordinary skill in the art.” *KSR Int'l Co. v. Teleflex Inc. et al.*, 127 S.Ct. 1727, at 1740-41. The nature of the problem to be solved may also be considered in the analysis.

I. THE INVENTION OF CLAIMS 1-4 and 6-20. According to the present invention, a technique to facilitate the determination of Global Positioning System (GPS) location information *without disrupting voice communications of a voice call* involving a mobile station is provided as defined in claims 1-4 and 6-20. For reduced cost, the inventive technique utilizes the same wireless transceiver for both voice call communications via a wireless communication network and GPS fix communications via a GPS system. Although the same wireless transceiver is utilized to facilitate the determination of GPS location information, voice communications of the voice call are not adversely disrupted according to the present invention.

In the such technique, GPS navigational-type data is received through the wireless transceiver and stored in memory prior to voice communications of a voice call involving the mobile station. Sometime during operation, a voice call request for a voice call by an end user is received through a user interface. In response to receiving the voice call request, the following actions are taken. GPS assistance data is derived based on the stored GPS navigational-type data. The wireless transceiver is tuned to a GPS frequency to receive signals from the GPS system through the wireless transceiver, and a GPS fix is performed with the signals from the GPS system through the wireless transceiver using the GPS assistance data, to thereby obtain GPS measurement data. After the GPS fix is performed, the wireless transceiver is retuned to signals of the wireless communication network, and the voice call for the voice call request is established and maintained for the mobile station through the wireless communication network with the wireless transceiver. During the voice call, the GPS measurement data and a request for calculating a location of the mobile station is transmitted to a location server in the wireless communication

network for calculating the location of the mobile station based on the GPS measurement data.

Thus, according to the present invention, the mobile station utilizes the same wireless transceiver (e.g. the same CDMA transceiver) for both voice calls and GPS fix communications. This reduces the cost to manufacture the mobile station. In response to the voice call request, the mobile station operates to tune its wireless transceiver to a GPS frequency of the GPS system for the GPS fix prior to establishing the voice call, and subsequent retune this wireless transceiver back to the wireless network for the voice call (e.g. claims 1-4 and 6-20).

II. THE INVENTION OF CLAIMS 21-34. In addition, an alternative inventive technique to facilitate the determination of GPS location information *without disrupting voice communications of a voice call* involving the mobile station is also provided as defined in claims 21-34. Again, for reduced cost, the inventive technique utilizes the same wireless transceiver for both voice call communications via a wireless communication network and GPS fix communications via a GPS system. Although the same wireless transceiver is utilized to facilitate the determination of GPS location information, voice communications of the voice call are not adversely disrupted according to the present invention.

In this alternative technique, a trigger signal indicative of a request to terminate a voice call maintained over the wireless communication network is identified through a user interface of the mobile station. By a voice call being “*terminated*,” it is meant that the voice call that is currently being maintained is to be *ended*. This request to terminate the voice call may be identified through use of an END key of the user interface, for example. In response to identifying the trigger signal indicative of the request to terminate the voice call, the following actions are taken. The wireless transceiver is tuned to a GPS frequency to receive signals from the GPS system through the wireless transceiver, and a GPS fix is performed with the signals from the GPS system using GPS assistance data to thereby obtain GPS measurement data. After the GPS fix, the wireless

transceiver is retuned to signals of the wireless communication network, and the GPS measurement data and a request for calculating a location of the mobile station is transmitted through the wireless transceiver to a location server in the wireless communication network for calculating the location of the mobile station based on the GPS measurement data. Thereafter, the voice call is terminated responsive to the trigger signal indicative of the request to terminate the voice call.

III. THE PRIOR ART.

A. General Deficiencies Of The Prior Art In Combination. Ayoub et al. is used by the Examiner as the primary reference in the rejection of all claims, and Laird et al. is used in support of the proposed modifications to Ayoub et al. Note that Ayoub et al. teach two different alternative techniques, the first alternative technique of FIG. 1 and the second alternative technique of FIG. 2. As explained below, the combined teachings of the prior art fail to teach, suggest, or render obvious the technique of claims 1-4 and 6-20, as well as the alternative technique of claims 21-34, when considering either technique of Ayoub et al. as the basis for the rejections.

1. The Prior Art In Combination Does Not Teach Or Suggest The Use Of The Same Wireless Transceiver As Claimed. In either technique, Ayoub et al. utilize two different wireless transceivers: one wireless transceiver for voice calls and another wireless transceiver for GPS communications; there is no shared wireless transceiver in Ayoub et al. The teachings of Laird et al. do not make up for this deficiency. Since the prior art in combination fails to teach or suggest these limitations, the Examiner's rejections fail and should be withdrawn.

2. The Nature Of The Problem Is Not Simple And Is Not Appreciated In The Prior Art. Note further that the prior art of record does not address or appreciate the problem to be solved, let alone the solution of the present invention. For reduced cost, the inventive technique utilizes the same wireless transceiver for both voice call communications via a wireless communication network and GPS fix communications via a GPS system. However, the use of the same wireless transceiver introduces a new

problem: how to reduce disruption of a voice call while obtaining “fresh” and accurate GPS fix information for sending to a receiving entity. Advantageously, according to the present invention, although the same wireless transceiver is utilized to facilitate the determination of GPS location information, voice communications of the voice call are not adversely disrupted.

On the other hand, neither Ayoub et al. or Laird et al. teach the use of the same wireless transceiver as claimed, and therefore the problem of the present application is not even presented in the prior art domain. For example, cellular transceiver 15 and GPS receiver 12 of Ayoub et al. likely operate separately and independently. Again, Laird et al. do not make up these deficiencies in Ayoub et al. This is further evidence that there is no adequate reason why one ordinarily skilled in the art would tune and retune a wireless transceiver of the prior art as claimed, performing a GPS fix in response to the voice call request but just prior to establishing the voice call.

3. The Prior Art In Combination Fails To Teach Or Suggest Limitations Associated With “A Request To Terminate A Voice Call” In Claims 21-34. With respect to claims 21-34 only, the prior art of record also fails to teach or suggest the step of “in response to identifying the trigger signal indicative of a request to terminate a voice call: causing a GPS fix to be performed with a GPS system using GPS assistance data to thereby obtain GPS measurement data” (e.g. claims 21-34). With respect to this step, the Examiner is obligated to interpret the claim limitations as broadly as is reasonable. As one ordinarily skilled in the art would readily appreciate, the claim limitations regarding “a trigger signal indicative of a request to terminate a voice call” simply means a trigger signal indicative of a request to end or cease communications of a pending voice call. Such interpretation is consistent and reinforced in light of the surrounding claim limitations, e.g. “a trigger signal indicative of a request to terminate *a voice call which is maintained for the mobile station over a wireless communication network* using a wireless transceiver” and “*causing the voice call to be terminated responsive to the trigger signal* indicative of the request to terminate the voice call.” As recited in the claims, the voice call is one that is *currently being maintained* and subject to the

termination request. Otherwise, the claim limitations associated with “terminate” would be rendered meaningless and/or non-sensical. Finally, such claim interpretation is especially consistent and reinforced in light of the specification. The Applicants respectfully submit that, if the Examiner is not interpreting such claim limitations as one ordinarily skilled in the art would as described, the Examiner’s interpretation is not reasonable.

In attempt to identify an equivalent teaching in Ayoub et al. with respect to “the trigger signal indicative of a request to terminate a voice call,” the Examiner cites to passages in Ayoub et al. at 4:15-19 and 4:20-35. The referenced passage of Ayoub et al. generally describes a mobile phone that detects a voice call request – not a termination request – and then transmits audio tones representing longitude and latitude during the call to an authority or during call setup. The Examiner makes reference to a “panic button” in the prior art at column 4 at lines 15-9. This is not the same as identifying a trigger signal indicative of a request to terminate a voice call, and the Examiner fails to articulate any reason why it would or could be. A “panic” button is not the same as an END key of a mobile station, as one skilled in the art will readily appreciate.

Since the prior art in combination fails to teach or suggest these limitations, the Examiner’s rejections fail and should be withdrawn.

B. Deficiencies With Respect To The First Alternative Technique Of FIG. 1 of Ayoub Et Al. As mentioned above, Ayoub et al. teach two different alternative techniques, the first alternative technique of FIG. 1 and the second alternative technique of FIG. 2. In the first alternative technique of FIG. 1, Ayoub et al. describe that “[w]hen an emergency call is requested from handset module 14 by pressing 911 on the keypad or pressing a dedicated panic button, a transceiver 15 generates the emergency call and communicates via an antenna 16 through the cellular network to the authority 4. When the communication between the mobile phone and the authority is established, the position is translated into audio tones which are transmitted through the voice channel of the telephone call connection” (see column 4 at lines 15-23 of Ayoub et al.). Prior to the

above discussion, however, Ayoub et al. describe that “[t]he GPS receiver comprises a GPS antenna 11 which feeds the received signals from the satellites into a GPS module 12 calculating the position of the mobile telephone resulting in a data item for longitude and latitude, resp. *The position data is acquired repetitively in constant time intervals, e.g. every five minutes*, and is stored in a controller 13 together with a time stamp representing the time of the position acquisition” (Emphasis Added) (see column 4 at lines 7-14 of Ayoub et al.). Note that, in the description, Ayoub et al. appear to use the terms “position,” “position data,” “location,” and “location information” to indicate e.g. the latitude and longitude information corresponding to the mobile telephone (i.e. the mobile telephone’s current position or location). See also Ayoub et al. at column 2 at lines 56-57 (“the position data is translated into a set of DTMF tones”) and at lines 65-67 (“*[t]he location can be captured at repetitive intervals and updated during the call connection through respective transmission of DTMF tone sequences*”) (Emphasis Added).

1. The First Alternative Technique Of Ayoub Et Al. Does Not Teach Or Suggest A GPS Fix Performed In Response To Receiving The Voice Call Request But Prior To Establishing The Voice Call. In the first alternative technique, it appears that any GPS fixes needed to obtain the position data in Ayoub et al. would occur at the time of each constant time interval in Ayoub et al. There is nothing in the description of the first alternative technique of Ayoub et al. to indicate otherwise, and the Examiner has not provided any reasoning to indicate otherwise. Thus, there is no teaching or suggestion in the first alternative technique of Ayoub et al. that a GPS fix is performed with the signals from the GPS system through the wireless transceiver using the GPS assistance data to thereby obtain GPS measurement data *in response to the voice call request, but just prior to establishing the voice call*. The teachings of Laird et al. do not make up for these deficiencies.

Since the prior art in combination fails to teach or suggest these limitations, the Examiner’s rejections fail and should be withdrawn.

2. The Examiner Fails To Identify And Articulate Explicit Or Inherent Support In The Prior Art For Several Claimed Limitations Associated With The Above. In the previous Amendment, the Applicants amended the claims to include relevant limitations such as “[in response to receiving the voice call request:] prior to establishing the voice call, causing a GPS fix to be performed...” and “after the GPS fix is performed, retuning the wireless transceiver to signals of a wireless communication network.” It appears, however, that the Examiner has failed to address such additional claim limitations. For example, the Examiner articulates the claim rejections by stating that Ayoub teaches “causing a GPS fix to be performed” (see e.g. page 4 of the Office Action of 25 June 2007), but completely fails to address the limitations of “prior to establishing the voice call.” As another example, the Examiner articulates the claim rejections by stating that Ayoub teaches “[a]fter the GPS fix is performed, causing the voice call to be established...” (see e.g. page 4 of the Office Action), but completely fails to address the associated limitations of “retuning the wireless transceiver to signals of a wireless communication network.” Thus, the Examiner has failed to establish any *prima facie* case that the prior art in combination renders the subject matter of the claims obvious. The Applicants respectfully submit that the Examiner fails to address these limitations and properly provide such articulation because the prior art of record fails to teach, suggest, or render obvious the present invention as defined by the claims, as explained herein.

3. There Is No Reasoning Or Evidence That One Ordinarily Skilled In The Art Would Modify The First Alternative Technique Of Ayoub Et Al. So That A GPS Fix Would Be Performed In Response To Receiving A Voice Call Request But Prior To Establishing The Voice Call. Even further, there is no adequate reason or evidence provided for why one ordinarily skilled in the art would modify the first alternative technique of Ayoub et al. so that a GPS fix would be performed with the signals from the GPS system through the wireless transceiver using the GPS assistance data to thereby obtain GPS measurement data *in response to the voice call request, but just prior to*

establishing the voice call. Laird et al. do not teach or suggest such a modification, and the Examiner has not provided any reasoning for such proposed modification.

Again, in the first alternative technique of Ayoub et al., it is described that “[t]he GPS receiver comprises a GPS antenna 11 which feeds the received signals from the satellites into a GPS module 12 calculating the position of the mobile telephone resulting in a data item for longitude and latitude, resp. *The position data is acquired repetitively in constant time intervals, e.g. every five minutes*, and is stored in a controller 13 together with a time stamp representing the time of the position acquisition” (Emphasis Added) (see column 4 at lines 7-14 of Ayoub et al.). Ayoub et al. also state at column 2 at lines 65-67 that “[t]he location can be captured at repetitive intervals and updated during the call connection through respective transmission of DTMF tone sequences”) (Emphasis Added). There is nothing in the description of the first alternative technique of Ayoub et al. to indicate otherwise, and the Examiner has not provided any reasoning to indicate differently.

B. Deficiencies With Respect To The Second Alternative Technique Of FIG. 2 of Ayoub Et Al. Again, Ayoub et al. teach two different alternative techniques, the first alternative technique of FIG. 1 and the second alternative technique of FIG. 2. The second alternative technique of Ayoub et al. is different from the first alternative technique, and relates to the proper local routing of emergency calls based on the position of the mobile telephone.

1. There Is No Reasoning Or Evidence Provided That One Ordinarily Skilled In The Art Would Modify The Second Alternative Technique Of Ayoub Et Al. So That The Mobile Telephone Location Needed Prior To Establishing A Voice Call Would Be Obtained During The Voice Call. In the rejection, the proposed modification to the teachings of Ayoub et al. by the Examiner would provide that, *during the voice call*, GPS measurement data and a request for calculating a location of the mobile station would be transmitted to a location server in the wireless communication network for calculating the

location of the mobile station based on the GPS measurement data. The Examiner identifies Laird et al. in support for such proposed modification.

In response, the Applicants respectfully submit that there is no adequate reason, suggestion or motivation why one ordinarily skilled in the art would modify the teachings as proposed by the Examiner. Specifically, there is no adequate reasoning or evidence provided that one ordinarily skilled in the art would modify the second alterative technique of Ayoub et al. so that the location of the mobile telephone – which is needed prior to establishing the voice call – would be obtained and submitted during the voice call.

In the second alternative technique of Ayoub et al., the mobile telephone of Ayoub et al. needs to obtain and submit the position information *prior to establishing the voice call* for proper routing of the call. If it did not, the voice call would not be properly routed for the emergency as desired by Ayoub et al. See e.g. Ayoub et al. at column 5 at lines 20-23 which states that “[t]he DID numbers are evaluated by the receiving equipment during the setup phase of the call, before a telephone call connection is fully established,” and column 5 at lines 34-38 which states “[a]s the DID represents the location of the caller, the MTSO, the CO and the ANI/MIN controller are able to pass the call to the proper 911 station 3 that is nearest to the emergency location and that can manage the emergency case best.”

To modify the second alternative technique of Ayoub et al. to that of the claimed technique would be to undesirably alter the operation and intent of the primary reference, as the position information would no longer be available and utilized for proper routing of the call. Thus, even if the Laird et al. reference properly taught the additional limitations that are lacking in Ayoub et al., there is no adequate reason, suggestion, or motivation to modify Ayoub et al. to perform the step of “during the voice call, causing the GPS measurement data and a request for calculating a location of the mobile station to be transmitted to a location server in the wireless communication network for calculating the location of the mobile station based on the GPS measurement data.”

Since the prior art in combination fails to render these limitations obvious for these reasons, the Examiner's rejections fail and should be withdrawn.

As explained herein above, the combined teachings of the prior art fail to teach, suggest, or render obvious the technique of claims 1-4 and 6-20, as well as the alternative technique of claims 21-34, when considering either technique described in Ayoub et al. as a basis for the rejections.

The Applicants respectfully request the Examiner to withdraw all claim rejections and allow the application as is appropriate.

Thank you. The Examiner is welcome to contact the undersigned if necessary to expedite prosecution of the present application.

Respectfully submitted,

/John J. Oskorep/

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